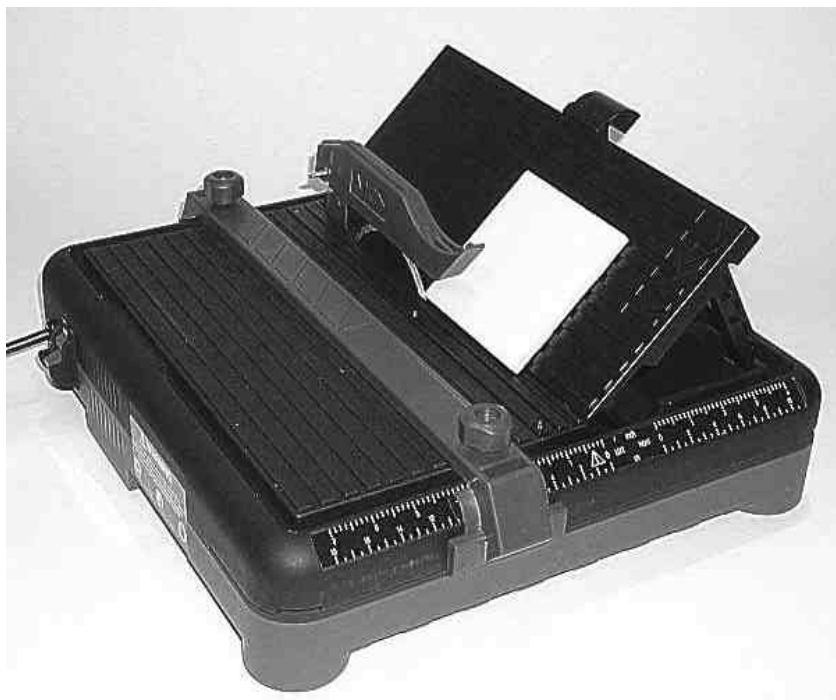


MK-145 SERIES

TILE SAW OWNER'S MANUAL & OPERATING INSTRUCTIONS



CAUTION:

Read all safety and operating instructions before using this equipment

Enter the Serial Number of your new saw in the space below. The Serial Number is located on the left side of the blade guard.

SERIAL NUMBER:

NOTE:

For your (1) one year warranty to be effective, complete the warranty card (including the Serial Number and mail it in as soon as possible.

INTRODUCTION:

We at MK Diamond want to congratulate you on selecting the MK-145 Tile Saw. We are certain that you will be pleased with your purchase. MK Diamond takes pride in producing the finest products in the industry.

Operated correctly, your MK-145 should provide you with years of quality service. In order to help you, we have included this manual. This owners manual contains information necessary to operate and maintain your MK-145 safely and correctly. Please take a few minutes to familiarize yourself with the MK-145 by reading and reviewing this manual.

If you should have questions concerning your MK-145, please feel free to call our friendly customer service department at: 800 421-5830

Regards,

MK Diamond

TABLE of CONTENTS:

	Page
SAFETY:	
Safety Messages	4
Damage Prevention Message	4
General Safety Precautions and Hazard Symbols	4
California Proposition 65 Message	7
Electrical Requirements and Grounding Instructions	7
Lock Out	10
Safety Label Locations	10
Tile Saw Specific Warnings	10
Product Specifications	11
UNPACKING AND ASSEMBLY	
Unpacking	12
Contents	12
Transport	12
Assembly	13
SETUP, ADJUSTMENT AND OPERATION	
Setup	15
Adjustment and Operation	17
Cleanup	21
MAINTENANCE AND TROUBLESHOOTING	
Maintenance	22
Troubleshooting	25
EXPLODED VIEW AND PARTS LIST	
Exploded View	27
Parts List	28
THEORY	
Theory of Diamond Saws	29
ACCESSORIES ORDERING and RETURN INSTRUCTIONS	
Accessories	30
Ordering Information	31
Return Material Policy	31
Packaging Instructions	31
Authorized Service Centers	31

Manual Part No. 158286

Revision No. 1

SAFETY:

Read and follow all safety, operating and maintenance instructions. Failure to read and follow these instructions could result in injury or death to you or others. Failure to read and follow these instructions could also result in damage and/or reduced equipment life.

SAFETY MESSAGES:

Safety messages inform the user about potential hazards that could lead to injury, death and/or equipment damage. Each safety message will be preceded by one of the following (3) three words that identify the severity of the message.

⚠ DANGER

Not following instructions **WILL** lead to **DEATH** or **SERIOUS INJURY**

⚠ WARNING

Not following instructions **COULD** lead to **DEATH** or **SERIOUS INJURY**

⚠ CAUTION

Not following instructions **CAN** lead to injury

DAMAGE PREVENTION AND INFORMATION MESSAGES:

A Damage Prevention Message is to inform the user of important information and/or instructions that could lead to equipment or other property damage if not followed. Information messages convey information that pertains to the equipment being used. Each message will be preceded by the word note, as in the example below.

NOTE: Equipment and/or property damage may result if these instructions are not followed.

GENERAL SAFETY PRECAUTIONS AND HAZARD SYMBOLS:

In order to prevent injury, the following safety precautions and symbols should be followed at all times!

Safety Precautions:

KEEP GUARDS IN PLACE.



In order to prevent injury, keep guards in place and in working order at all times.

REMOVE ADJUSTING KEYS AND WRENCHES.

Form a habit of checking to see that keys and adjusting wrenches are removed from the power tool before it is turned on.

KEEP WORK AREA CLEAN.

Cluttered work areas and benches invite accidents.

DON'T USE IN DANGEROUS ENVIRONMENT.

Do not use power tools in damp or wet locations nor expose them to rain. Always keep the work area well lighted.

SAFETY:

KEEP CHILDREN AWAY.

All visitors and children should be kept a safe distance from work area.

MAKE WORKSHOP KID PROOF.

Make the workshops kid proof by using padlocks, master switches or by removing starter keys.

DO NOT FORCE THE TOOL.

A power tool will do a job better and safer operating at a rate for which it was designed

USE THE RIGHT TOOL.

Do not force a tool or attachment, to do a job that it was not designed to do.

USE THE PROPER EXTENSION CORD.

If using an extension cord, make sure its in good condition first. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage that will result in a loss of power and overheating. TABLE 1, (Page 9) shows the correct AWG size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

WEAR PROPER APPAREL.

Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry that may be caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

ALWAYS USE SAFETY GLASSES.



Safety glasses should always be worn when working around power tools. In addition, a face or dust mask should be worn if a cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses and may not prevent eye injury-they are NOT safety glasses.

SECURE WORK.

Clamps or a vise should be used to hold work whenever practical. Keeping your hands free to operate a power tool is safer.

DO NOT OVERREACH.

Always keep proper footing and balance at all times by not overreaching.

MAINTAIN TOOLS WITH CARE.

Keep tools sharp and clean for the best and safest performance. Always follow maintenance instructions for lubricating and when changing accessories.

DISCONNECT TOOLS.

Power tools should always be disconnected before servicing or when changing accessories such as, blades, bits, cutters, and the like.

SAFETY:

REDUCE THE RISK OF UNINTENTIONAL STARTING.



Make sure the ON/OFF switch is in OFF position before plugging in a power tool.

USE RECOMMENDED ACCESSORIES.

Consult the owner's manual for recommended accessories. Using improper accessories may increase the risk of personal or by-stander injury.

NEVER STAND ON TOOL.

Serious injury could occur if a power tool is tipped, or, if the cutting tool is unintentionally contacted.

CHECK DAMAGED PARTS.

Before using a power tool, check for damaged parts. A guard or another part that is damaged should be carefully checked to determine it would operate properly and perform its intended function. Always check moving parts for proper alignment or binding. Check for broken parts, mountings and all other conditions that may affect the operation of the power tool. A guard, or any damaged part, should be properly repaired or replaced.

DIRECTION OF FEED.

Always feed work into a blade or cutter against the direction of rotation. A blade or cutter should always be installed such that rotation is in the direction of the arrow imprinted on the side of the blade or cutter.

NEVER LEAVE TOOL RUNNING UNATTENDED – TURN POWER OFF.

Do not leave a tool until it comes to a complete stop. Always turn a power tool OFF when leaving the work area or when finished cutting.

Hazard Symbols:

ELECTRICAL SHOCK!



Never touch electrical wires or components while the motor is running. Exposed, frayed or worn electrical motor wiring can be sources of electrical shock that could cause severe injury or burns.

ACCIDENTAL STARTS!



Before plugging the equipment into an electrical outlet, be sure the ON/OFF switch is in the "OFF" position to prevent accidental starting. Unplug the power tool before performing any service operation.

ROTATING OR MOVING PARTS!



Keep hands, feet, hair, and clothing away from all moving parts to prevent injury. Never operate a power tool with covers, shrouds, or guards removed.

SAFETY:

⚠ WARNING

Sawing and drilling generates dust. Excessive airborne particles may cause irritation to eyes, skin and respiratory tract. To avoid breathing impairment, always employ dust controls and protection suitable to the material being sawed or drilled; See OSHA (29 CFR Part 1910.1200). Diamond Blades improperly used are dangerous. Comply with American National Standards Institute Safety Code, B7.1 and, Occupational Safety and Health Act covering Speed, Safety Guards, Flanges, Mounting Procedures, General Operating Rules, Handling, Storage and General Machine Conditions.

CALIFORNIA PROPOSITION 65 MESSAGE:

⚠ WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contain chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead, from lead-based paints
- Crystalline silica, from bricks and cement and other masonry products and
- Arsenic and chromium, from chemically treated lumber

Your risk from these exposures varies depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

ELECTRICAL REQUIREMENTS AND GROUNDING INSTRUCTIONS:

In order to prevent potential electrical shock and injury, the following electrical safety precautions and symbols should be followed at all times!

⚠ WARNING



In case of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

- Do not modify the plug provided – if it will not fit the outlet, have the proper outlet installed by a qualified electrician
- Improper connections of the equipment-grounding conductor can result in a risk of electric shock. The equipment-grounding conductor is the insulated conductor that has an outer surface that is green with or without yellow stripes. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug
- Repair or replace damaged or worn cord immediately

SAFETY:

⚠ WARNING



This tool is intended for use on a circuit that has an outlet that looks like the one shown in Sketch A, in Figure 1. The tool has a grounding plug that looks like the plug illustrated in Sketch A, in FIGURE 1. A temporary adapter that looks like the

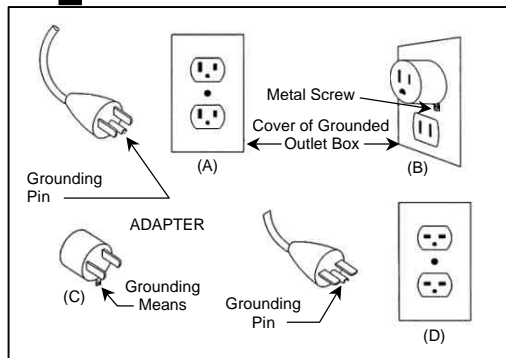


FIGURE 1

adapter illustrated in sketches B and C, may be used to connect this plug to a 2-pole receptacle as shown in Sketch B, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug and the like, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

NOTE: Use of a temporary adapter is not permitted in Canada.

⚠ WARNING



To reduce the risk of electrocution, keep all connections dry and off the ground.

A Ground Fault Circuit Interrupter (GFCI) should be provided on the circuit(s) or outlet(s) to be used for the tile saw. Receptacles are available having built-in GFCI protections and may be used for this measure of safety.

When using an extension cord, the GFCI should be installed closest to the power source, followed by the extension cord and lastly, the saw.

⚠ WARNING



To avoid the possibility of the appliance plug or receptacle getting wet, position the Tile Saw to one side of a wall mounted receptacle. This will prevent water from dripping onto the receptacle or plug. A "drip loop," shown in FIGURE 2, should be arranged by the user to properly position the power cord relative to the power source.

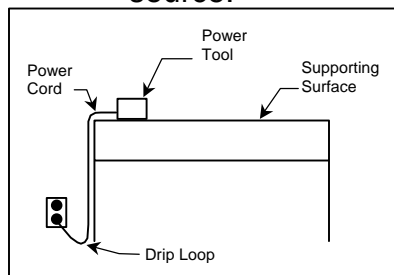


FIGURE 2

The "drip loop" is that part of the cord below the level of the receptacle, or the connector, if an extension cord is used. This method of positioning the cord prevents the travel of water along the power cord and coming in contact with the receptacle.

If the plug or receptacle gets wet, DO NOT unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the tool. Then unplug and examine for presence of water in the receptacle.

SAFETY:

WARNING



Use only extensions cords that are intended for outdoor use. These extension cords are identified by a marking "Acceptable for use with outdoor appliances; store indoors while not in use." Use only extension cords having an electrical rating not less than the rating of the product. Do not use damaged extension cords. Examine extension cords before using and replace if damaged. Do not abuse extension cords and do not yank on any cord to disconnect. Keep cords away from heat and sharp edges. Always disconnect extension cords from the receptacle before disconnecting the product from the extension cord.

WARNING



Use of undersize extension cords results in low voltage to the motor that can result in motor burnout and premature failure. MK Diamond warns that equipment returned to us showing signs of being run in a low voltage condition, with undersized extension cord, will be repaired or replaced totally at the customers expense. There will be no warranty claim

To choose the proper extension cord,

- Locate the length of extension cord needed in TABLE 1 below.
- Once the proper length is found, move down the column to obtain the correct AWG size required for that length of extension cord.

As an example, a fifty (50) foot extension cord would require an AWG size of 16.

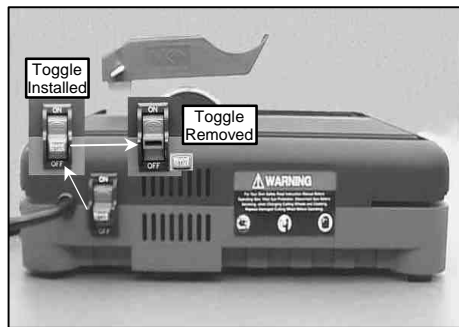
Extension Cord Minimum Gage for Length

Volts	Total Length of Cord in Feet			
	25 ft.	50 ft.	100 ft	150 ft.
120V	AWG	AWG	AWG	AWG
	18	16	16	14

TABLE 1

SAFETY:

LOCK OUT:

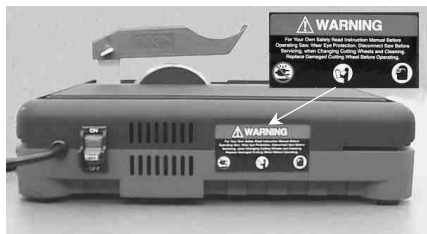


To prevent accidental starting, and to help ensure your workshop is "Kidproof," this saw is provided with a means to deactivate the functioning of the motor switch. The switch is provided with a removable toggle. With the toggle removed, the switch does not function and the motor cannot be turned on. Replacing the toggle reactivates the switch function.

SAFETY LABEL LOCATIONS:

Safety labels are located according to Figure 1 to 3 below. The labels contain important information. Please read the information contained on each label. These labels are considered a permanent part of your saw. If a label comes off or becomes hard to read, contact MK Diamond or your dealer for a replacement

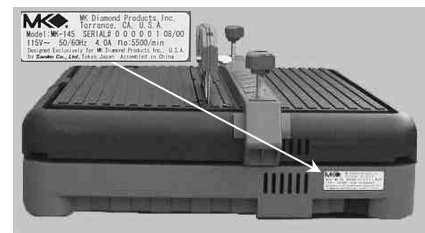
Item	Location	Description	Part No.
1	Switch Side	General Safety Warnings	158315
2	Water Basin	Water level warning	N/A
3	Back	Serial Number and Motor Specifications	158316



1: General Safety Warning



2: Water Level Warning



3: Serial Number and Motor Specifications

TILE SAW SPECIFIC WARNINGS:

⚠ WARNING

- Wear eye protection
- Use splash hood for every operation for which it can be used
- Disconnect saw before servicing, when changing cutting blades, and cleaning
- Use tool only with smooth edge cutting blades free of openings and grooves
- Replace damaged cutting blade before operating
- Do not fill water bath above water fill line

SAFETY:

PRODUCT SPECIFICATIONS:

The MK-145 is a versatile tabletop tile saw. Operated and used according to this manual, the MK-145 will provide years of dependable service.

General Description:

The MK-145 tile saw is engineered as a self-contained wet saw consisting of a powerful 115v motor in a hard plastic case. The saw is capable of cutting a tile up to (1) inch (25mm) thick. The water basin located below the tabletop can be filled with ordinary tap water, and is easily cleaned following use.

Motor Specifications:

Motor specifications for the MK-145 are listed in Table 2 below.

Voltage	115 v
Amperage	4 a
Frequency	50/60 Hz
RPM	5,500 rpm
Weight	11 lbs/5kgs

Table 2

Blade Capacity:

The MK-145 uses a 4-1/2 inch diameter continuous rim MK Diamond blade with a 1/16-inch cutting width. The MK 145 can miter cut at a 45-degree miter angle or a 22.5-degree angle for octagonal shapes.

Tile Types:

The MK-145 can cut a variety of tile types including Porcelain, Terracotta, Marble, Quarry and Slate, or almost any other non-ferrous material.

NOTE: The MK-145 is not designed to cut plastic or ferrous (metals) material.

UNPACKING, TRANSPORT and ASSEMBLY:

UNPACKING:

Your MK-145 has been shipped from the factory thoroughly inspected. Only minimal assembly is required.

If not done, remove the MK-145 from the box and place on a flat surface. Remove the Water Basin, Cover (See Step 1 of the Blade Guard Installation Procedure; page 13.), and remove the accessories package from the Water Basin.

CONTENTS:

In your container, you will find one (1) MK-145, one (1) 4-1/2 inch continuous rim diamond blade, one (1) adjustable tile guide, one (1) adjustable cutting guide, one (1) adjustable blade guard with support angle, one (1) wrench, one (1) blade guard support screw, one (1) warranty card and this manual (See below).



MK-145



Diamond Blade



Diagonal
Cutting Guide



Adjustable
Cutting Guide



Adjustable
Blade Guard



Wrench



Blade Guard
Support Screw



Warranty
Card



Manual

TRANSPORT:

The MK-145 weighs approximately eleven (11) pounds, making transport easy.

⚠CAUTION Never transport the MK-145 with water in the Cooling Basin.

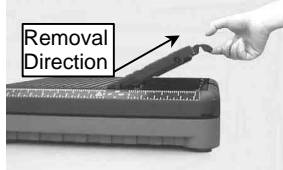
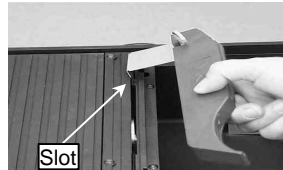

The MK-145 is designed with recessed edges in the molded plastic case for ease of transport. To transport the MK-145, simply grasp it by the two recessed edges, lift and move it to the desired location.

UNPACKING, TRANSPORT and ASSEMBLY:

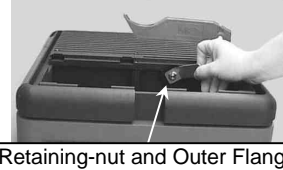
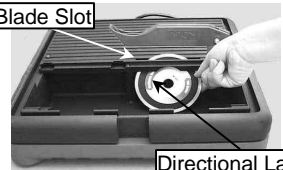
ASSEMBLY:

Follow the assembly instructions to prepare your MK-145 for operation.

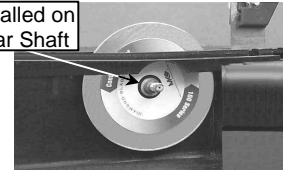
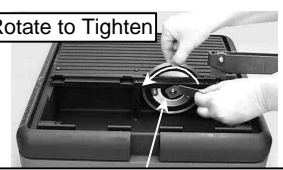
Blade Guard Installation:

STEP	ACTION	
1.	Remove Water Basin Cover a) Lift Water Basin Cover b) Pull out on Water Basing Cover to Remove	
2.	Install Diamond Blade Guard a) Insert Blade Guard into the small Slot of Cutting Table	
	a) Rotate Blade Guard Upright b) Insert Blade Guard Retaining Screw	

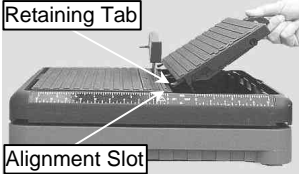
Diamond Blade Installation:

STEP	ACTION	
1.	Retaining-nut and Outer Flange a) Locate Retaining-nut and Outer Flange b) Remove Retaining-nut and Outer Flange using Wrench	
2.	Install Diamond Blade a) Orient Blade to Gear Shaft with Directional Label facing out b) Install Blade through slot in table from below	

NOTE: When installing the diamond blade retaining-nut, ensure the threads of the nut are aligned with the threads of the drive shaft so as not to “cross-thread the nut.”

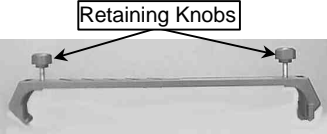
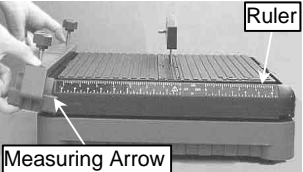
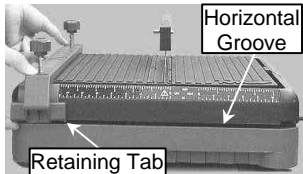
3.	Verify Blade Seated a) Fit Blade onto Gear Shaft b) Verify Blade is seated on the Gear Shaft	
4.	Tightening Diamond Blade a) Install the Outer Flange and Retaining-nut b) Hold the Retaining-nut still with the Wrench c) Rotate the Diamond Blade counter-clockwise to tighten – DO NOT OVER TIGHTEN	

UNPACKING, TRANSPORT and ASSEMBLY:

STEP	ACTION	
5.	Reinstall the Water Basin Cover a) Insert the three (3) Cover Retaining Tabs into the three (3) Cover Alignment Slots b) Seat the Water Basin Cover on the MK-145	

Adjustable Cutting Guide Installation:

NOTE: The Adjustable Cutting Guide can be used on either side of the Diamond Blade.

1.	Retaining Knobs a) Back out the two (2) Retaining Knobs on the Adjustable Cutting Guide	
2.	Measuring Arrow a) Align the Measuring Arrow side of the Adjustable Cutting Guide to the Ruler on the front of the MK-145	
3.	Install the Adjustable Cutting Guide a) Fit the Retaining Tabs of the Adjustable Cutting Guide to the Horizontal Grooves of the MK-145 b) Slide the Adjustable Cutting Guide onto the MK-145	

SETUP, ADJUSTMENT and OPERATION:

SETUP:

⚠ CAUTION

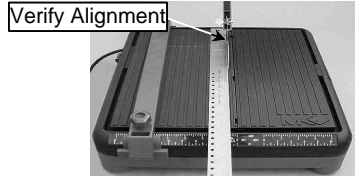
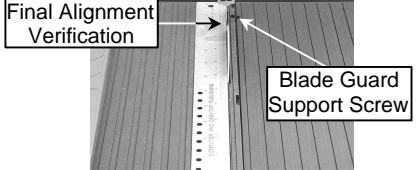
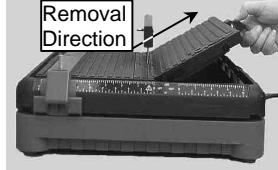
- Before powering or starting, check for damage, that could prevent this equipment from proper operation or performing its intended function. Check for binding and improper alignment of moving parts. Check for damaged, broken, or missing parts.
- Verify the On/Off switch is in the OFF position.
- Before connecting the MK-145 to a power supply, be sure the voltage, cycle and phase of the job site power source meet the requirements of TABLE 3

VOLTAGE:	115v
CYCLE:	60Hz
PHASE:	1-phase

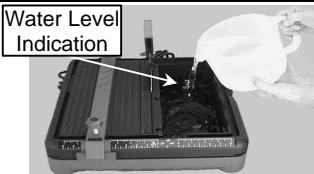
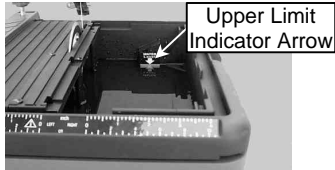
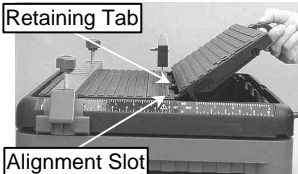
TABLE 3

- If using an extension power cord, ensure sure the length and wire gauge correspond to the requirements listed in TABLE 1 on page 9. An extension power cord that is too small in wire gauge (diameter), or too long in length, will cause the motor to overheat and could cause premature failure.
- Use an approved Ground Fault Circuit Interrupter (GFCI)
- Do not cover the motor vents as this could lead to motor overheating.
- Do not overfill the Cooling Basin.

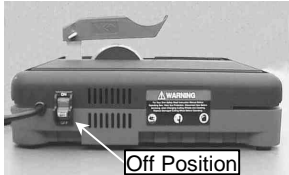
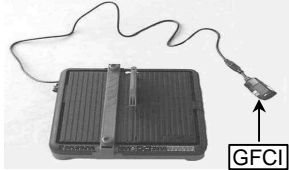
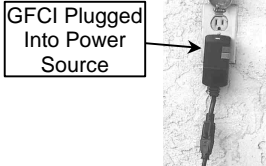
NOTE: In order to avoid breaker tripping, a 15-amp circuit breaker should be used.

STEP	ACTION	
1.	Blade Guard Alignment Verification a) Place MK-145 on a flat, level surface b) Verify the Diamond Blade is aligned with the Blade Guard Support Angle using straight edge	
2.	Blade Guard Adjustment a) Loosen the Blade Guard Support Screw b) Align the Blade Guard to the Diamond Blade c) Retighten the Blade Guard Support Screw	
3.	Remove Water Basin Cover a) Lift Water Basin Cover b) Pull out on Water Basing Cover to remove	

SETUP, ADJUSTMENT and OPERATION:

STEP	ACTION	
⚠ WARNING Overfilling the Water Basin can lead to water entering the motor compartment and potential electric shock.		
4.	Filling the Water Basin a) Fill the Water Basin UP TO the mark indicated on the Water Level Label	
5.	Verify Water Level a) Verify the Water Basin water level, is below the Upper Limit Indicator Arrow	
6.	Reinstall the Water Basin Cover a) Insert the three (3) Cover Retaining Tabs into the three (3) Cover Alignment Slots b) Seat the Water Basin Cover on the MK-145	

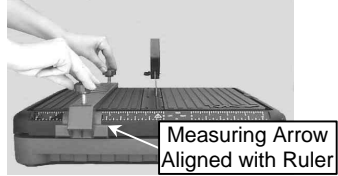
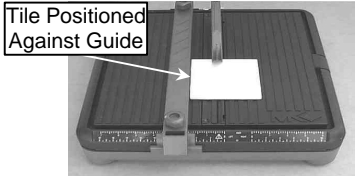

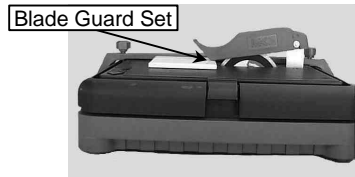
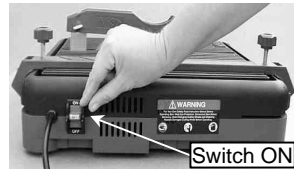
⚠ WARNING If an extension cord is used, first verify it meets the requirements of TABLE 1 (page 9). Plug the MK-145 into the extension cord, plug the extension cord into a GFCI and finally, plug the GFCI into the power source in that order.

7.	Verify the ON/OFF Switch is OFF a) Verify the ON/OFF Switch is in the OFF position	
8.	Plug-in the MK-145 a) Plug the MK-145 into a GFCI	
	b) Plug the GFCI into the power source	

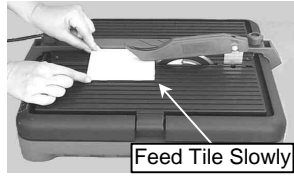
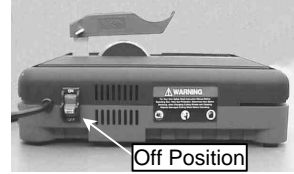
SETUP, ADJUSTMENT and OPERATION:

ADJUSTMENT AND OPERATION:

Cutting Straight Edges:

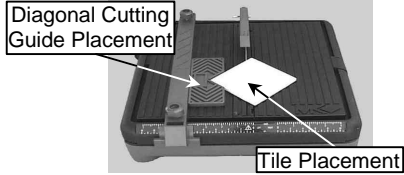
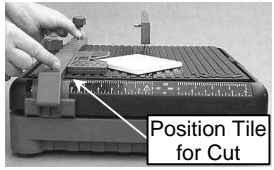

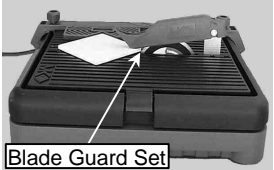

STEP	ACTION	
1.	Position Adjustable Cutting Guide a) Loosen the two (2) Retaining Knobs b) Align the Measuring Arrow of the Adjustable Cutting Guide to the cut length indicated on the Cutting Table Ruler c) Retighten the Retaining Knobs	
2.	Position the Tile a) Position the tile against the Adjustable Cutting Guide	
3.	Set the Blade Guard  a) Set Blade Guard above the top of the tile	
4.	Turn on the MK-145 a) Turn on the MK-145 b) Verify Cooling Water Flow around Blade Guard	

⚠ CAUTION DO NOT FORCE TOOL, it will do the job better and safer at the rate for which it was designed.


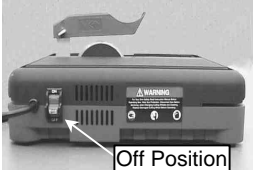
5.	Cutting Tile a) Feed the tile into the Diamond Blade with a steady even pressure (forcing the tile will cause the blade to slow which could cause motor overheating)	
6.	Cutting Complete a) Turn saw off when cutting is complete	

SETUP, ADJUSTMENT and OPERATION:

Diagonal Cutting:

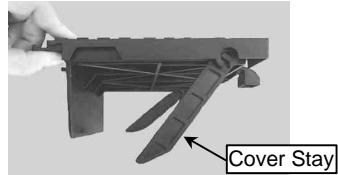
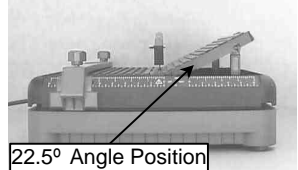
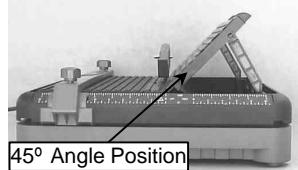
STEP	ACTION	
1.	Setup Diagonal Cutting Guide a) Place the Diagonal Cutting Guide against the Adjustable Cutting Guide b) Fit the tile into the retaining slot of the Diagonal Cutting Guide	 <p>Diagonal Cutting Guide Placement</p> <p>Tile Placement</p>
2.	Position Adjustable Cutting Guide c) Loosen the two (2) Retaining Knobs d) Align the Adjustable Cutting Guide to the desired cut position c) Retighten the Retaining Knobs	 <p>Position Tile for Cut</p>
3.	Set the Blade Guard  a) Set Blade Guard above the top of the Tile	 <p>Blade Guard Set</p>
4	Turn on the MK-145 a) Turn on the MK-145 b) Verify Cooling Water Flow around Blade Guard	 <p>Switch ON</p>

⚠ CAUTION DO NOT FORCE TOOL, it will do the job better and safer at the rate for which it was designed.

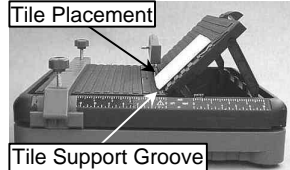
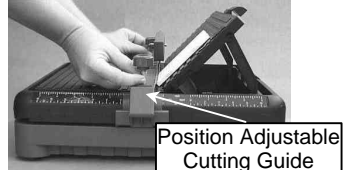
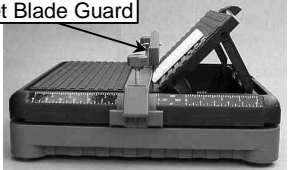

5.	Cutting Tile a) Feed the tile into the Diamond Blade with a steady even pressure (forcing the tile will cause the blade to slow which could cause motor overheating)	 <p>Feed Tile Slowly</p>
6.	Cutting Complete a) Turn saw off when cutting is complete	 <p>Off Position</p>

SETUP, ADJUSTMENT and OPERATION:

Cutting 22.5 and 45 Degree Angles:

STEP	ACTION	
1.	Cover Stay a) Pull out the two (2) Cover Stays located on the bottom of the Water Basin Cover	 Cover Stay
2.	22.5-Degree Angles a) Place the Cover Stays into the two (2) 22.5-degree Angle Slots (lower slots) located inside the Water Basin	 22.5° Angle Position
3.	45-Degree Angles a) Place the Cover Stays into the two (2) 45-degree Angle Slots (upper slots) located inside the Water Basin	 45° Angle Position

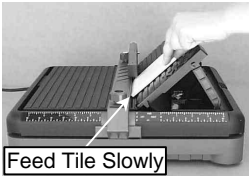
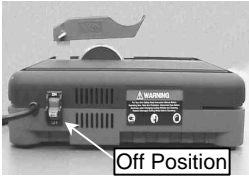
NOTE: Placing the Adjustable Cutting Guide against the edge of the tile will provide added support during the cut, and, will reduce the chance of being injured by sharp edges and chips.

4.	Placing the Tile a) Place the tile onto the raised Cutting Table with the glazed side down b) Verify the tile is resting against the Tile Support Groove of the Cutting table	 Tile Placement Tile Support Groove
5.	Position Adjustable Cutting Guide a) Loosen the two (2) Retaining Knobs b) Position the Adjustable Cutting Guide against the edge of the tile a) Retighten the Retaining Knobs	 Position Adjustable Cutting Guide
6.	Set the Blade Guard a) Set Blade Guard above the top of the tile	 Set Blade Guard
7.	Turn on the MK-145 c) Turn on the MK-145 d) Verify Cooling Water Flow around Blade Guard	 On Position

SETUP, ADJUSTMENT and OPERATION:



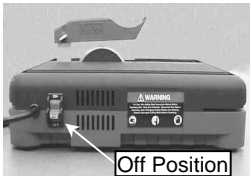
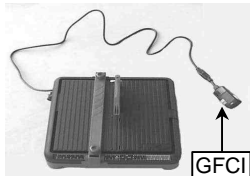
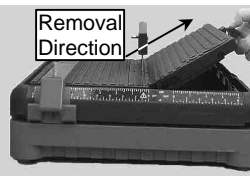
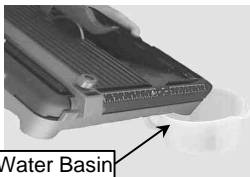

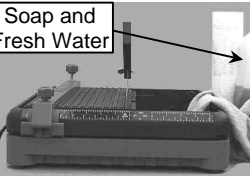
STEP	ACTION
------	--------

⚠ CAUTION DO NOT FORCE TOOL, it will do the job better and safer at the rate for which it was designed.

8.	Cutting Tile a) Feed the tile into the Diamond Blade with a steady even pressure (forcing the tile will cause the blade to slow which could cause motor overheating)	
9.	Cutting Complete a) Turn saw off when cutting is complete	

SETUP, ADJUSTMENT and OPERATION:

Cleanup:

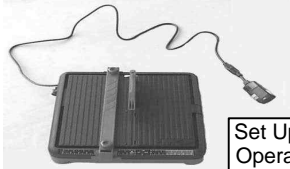
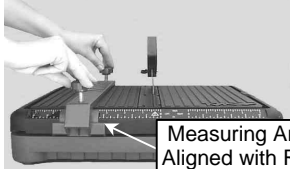
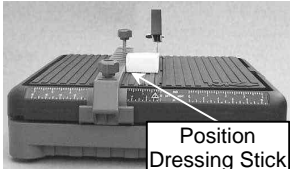
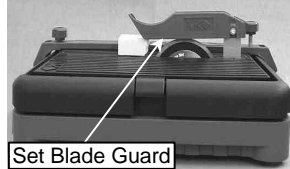

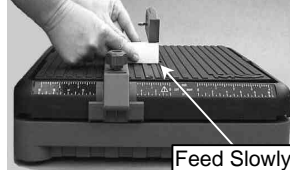
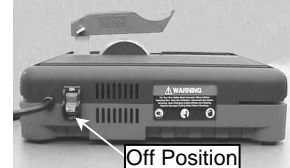
STEP	ACTION	
	⚠ WARNING Never empty the Cooling Basin with the ON/OFF switch in the ON position, or when power is applied.	
1.	 De-energize the MK-145 a) Verify the ON/OFF switch is in the OFF position	
2.	Un Plug the MK-145 a) Unplug the MK-145 from the power source b) Unplug the MK-145 from the GCFI	
3.	Remove Water Basin Cover a) Lift Water Basin Cover b) Pull out on Water Basing Cover to remove	
4.	Empty Water Basin a) Empty the contents of the Water Basin (Conform to Federal, State and Local laws, codes and ordinances relative to environmental protection if unsure of disposal requirements)	
	⚠ WARNING During the cleaning process, do not allow water to enter the motor compartment of the MK-145.	
5.	Cleaning a) Clean the MK-145 with clean, fresh water and dish soap b) Rinse with clean water and dry the MK-145 with a clean cloth or paper towels	

MAINTENANCE and TROUBLESHOOTING:

MAINTENANCE:



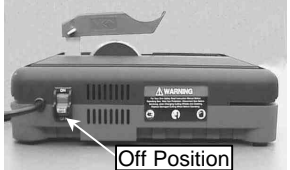
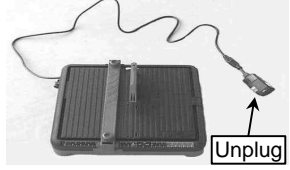
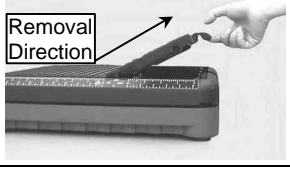

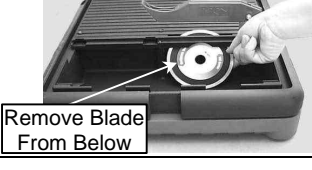
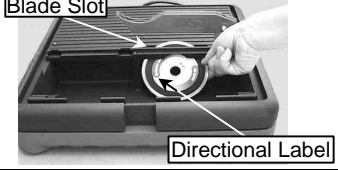
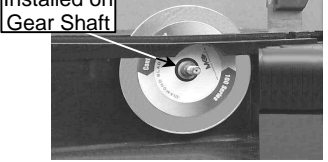
Blade Dressing:

Like most cutting instruments, a diamond blade performs best when it is dressed. Over time and use, diamonds on the outer edge will become smoothed or “glazed” over. This will reduce grinding efficiency and may cause the blade to “wander” or bend giving the illusion of an alignment problem. When this occurs, the blade will need to be dressed. The diamond blade can be dressed using the MK Dressing Stick (part number 152792) and by following the steps below.

STEP	ACTION	
1.	Set Up for Operation a) Setup the MK-145 for operation (as described in the THEORY, SETUP, ADJUSTMENT AND OPERATION section)	 Set Up for Operation
2.	Position Adjustable Cutting Guide a) Loosen the two (2) Retaining Knobs b) Position the Adjustable Cutting Guide to cut a length of 1/16-inch c) Retighten the Retaining Knobs	 Measuring Arrow Aligned with Ruler
3.	Set Dressing Stick a) Place the Dressing Stick on the Cutting Table against the Adjustable Cutting Guide	 Position Dressing Stick
4.	Set the Blade Guard a) Set Blade Guard above the top of the Dressing Stick	 Set Blade Guard
5.	Turn on the MK-145 a) Turn on the MK-145 b) Verify Cooling Water Flow around Blade Guard	 On Position
6.	Sharpening the Blade a) Feed the Dressing Stick into the Diamond Blade with a steady even pressure (forcing the tile will cause the blade to slow which could cause motor overheating)	 Feed Slowly
7.	Cutting Complete a) Turn saw off when cutting is complete	 Off Position

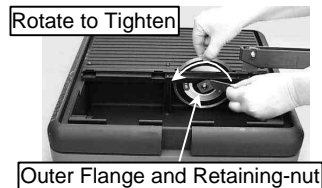
MAINTENANCE and TROUBLESHOOTING:

Diamond Blade Change-out:

STEP	ACTION	
	⚠ WARNING Disconnect the tool before servicing and when changing accessories, such as blades, bits, cutters, and the like. Lockout the motor using the lockout toggle on the ON/OFF switch.	
1.	 De-energize the MK-145 a) Verify the ON/OFF switch is in the OFF position	
2.	Un Plug the MK-145 a) Unplug the MK-145 from the power source b) Unplug the MK-145 from the GCFI	
3.	Remove Water Basin Cover a) Lift Water Basin Cover b) Pull out on Water Basing Cover to remove	
4.	Retaining-nut and Outer Flange a) Locate Retaining-nut and Outer Flange b) Remove Retaining-nut and Outer Flange using Wrench	
5.	Remove Diamond Blade a) Slide Diamond Blade off the Gear Shaft from below the Cutting Table	
6.	Install Diamond Blade a) Orient Blade to Gear Shaft with Directional Label facing out b) Install Blade through slot in table from below	
7.	Verify Blade Seated a) Fit Blade onto Gear Shaft b) Verify Blade is seated on the Gear Shaft	

NOTE: When installing the diamond blade retaining-nut, ensure the threads of the nut are aligned with the threads of the drive shaft so as not to “cross-thread the nut.”

MAINTENANCE and TROUBLESHOOTING:

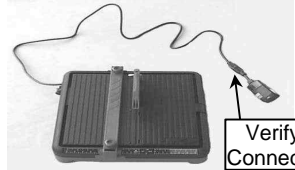
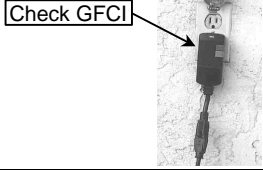
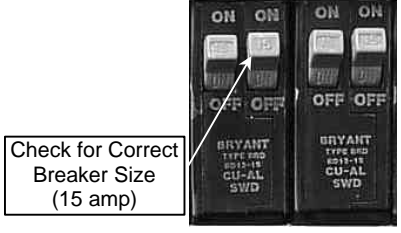
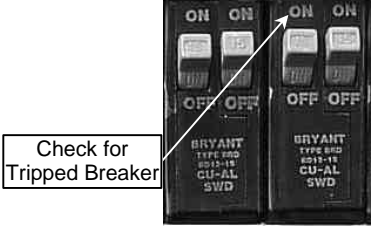
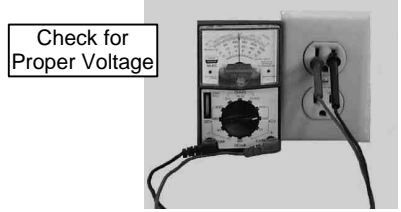
Step	Action	
5.	<p>Tightening Diamond Blade</p> <p>c) Install the Outer Flange and Retaining-nut</p> <p>d) Hold the Retaining-nut still with the Wrench</p> <p>e) Rotate the Diamond Blade counter-clockwise to tighten – DO NOT OVER TIGHTEN</p>	 <p>Rotate to Tighten</p> <p>Outer Flange and Retaining-nut</p>

MAINTENANCE and TROUBLESHOOTING:

TROUBLESHOOTING:

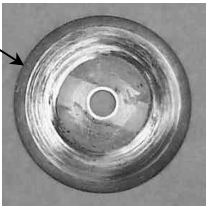
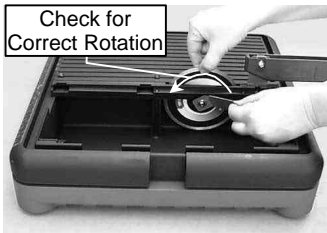
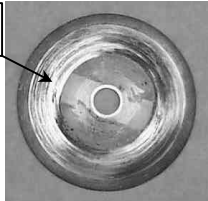
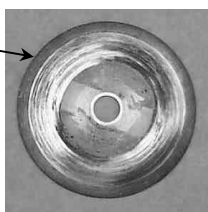
⚠ WARNING Turn the ON/OFF switch to the OFF position and unplug the saw from the power source before performing any troubleshooting procedure.

Motor Stops Turning:

STEP	ACTION	
1.	Verify Plugs Fully Connected <ul style="list-style-type: none"> If not fully connected, reconnect plugs and turn on the saw If fully connected, go to step 2 	 <p>Verify all Connections</p>
2.	Check Ground Fault Circuit Interrupter (GFCI) <ul style="list-style-type: none"> If the GFCI is tripped reset it and turn on the saw If the GFCI is not tripped, go to step 3 	 <p>Check GFCI</p>
3.	Verify Circuit Breaker at least 15 Amps <ul style="list-style-type: none"> If the circuit breaker is not 15 amps, move the saw to a 15-amp circuit breaker and turn on saw If the circuit breaker is 15 amps, go to step 4 	 <p>Check for Correct Breaker Size (15 amp)</p>
4.	Verify Circuit Breaker Not Tripped <ul style="list-style-type: none"> If tripped, reset the breaker once and turn on the saw If the saw trips again, proceed to step 6 If the circuit breaker is not tripped, go to step 5 	 <p>Check for Tripped Breaker</p>
5.	Check Power Source Voltage is 115 Volts <ul style="list-style-type: none"> If power source is not at 115v move the saw to another circuit and turn on the saw If the power source is at 115v, go to step 6 	 <p>Check for Proper Voltage</p>
7.	Return the MK-145 for Repair <ul style="list-style-type: none"> Return the MK-145 for repair per the Return Instructions section of this procedure 	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Return to MK Diamond for Repair</p> </div>

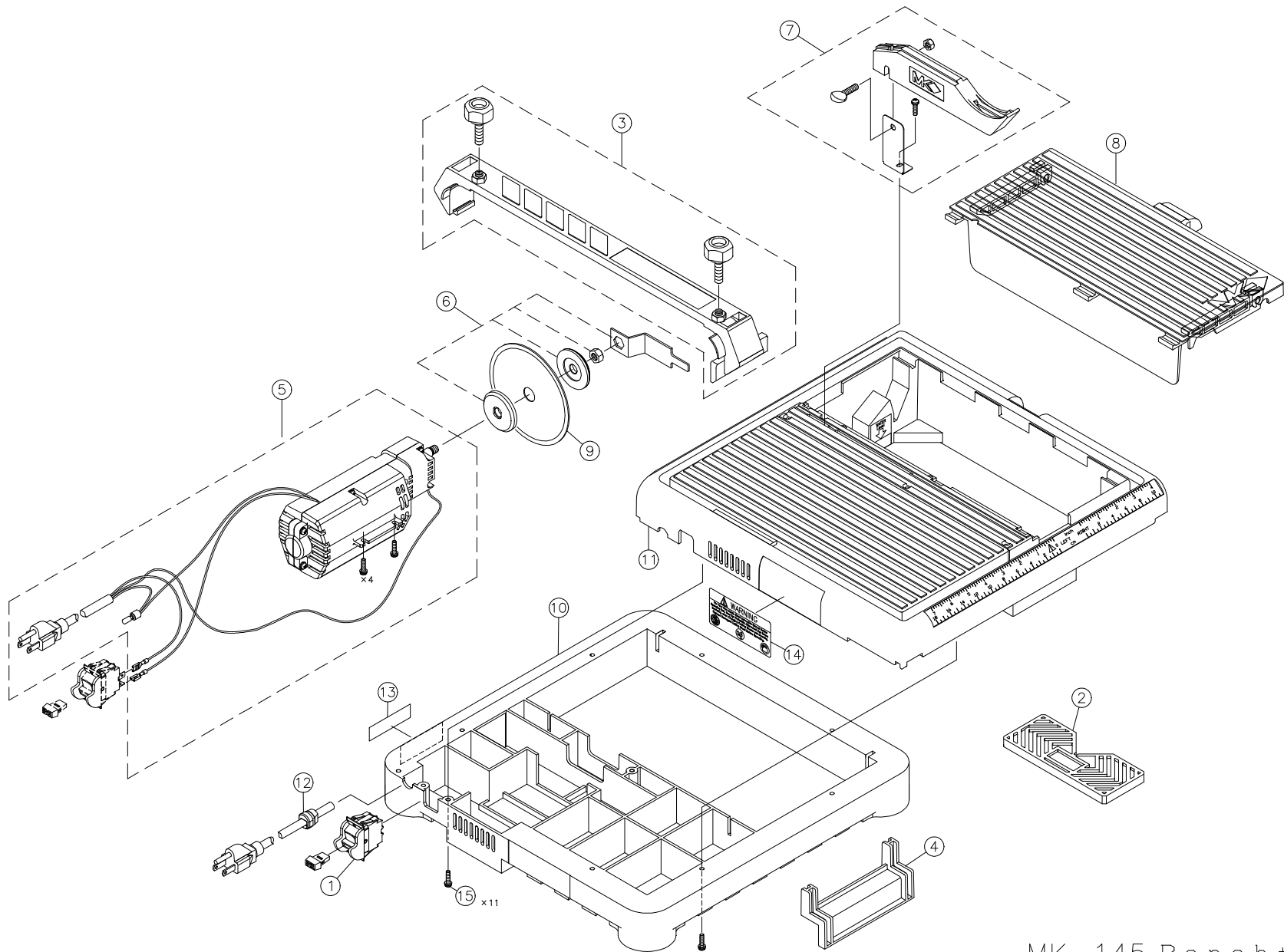
MAINTENANCE and TROUBLESHOOTING:

Blade Will Not Cut Properly:

STEP	ACTION	
1	Check Blade for Smoothness ("Glazing") <ul style="list-style-type: none"> If blade is smooth, sharpen per Blade Sharpening Section of this manual If blade is not glazed, go to step 2 	<div>Check for Glazing</div> 
2.	Check Blade Rotation Verify blade rotates in counter-clockwise direction as indicated by arrow on the diamond blade. <ul style="list-style-type: none"> If not rotating correctly, reposition the blade to correct position If rotating correctly, go to step 3 	<div>Check for Correct Rotation</div> 
3.	Ensure Blade Core Not Bent <ul style="list-style-type: none"> If the blade core is bent, replace blade per the Diamond Blade Change-out procedure of this manual If the blade core is not bent, go to step 4 	<div>Check for Bent or Damaged Core</div> 
4.	Check Blade is Correct for Material Being Cut Contacting place of purchase or MK Diamond at – 800-421-5830 to verify blade <ul style="list-style-type: none"> If the blade is not correct, obtain the correct blade If the blade is correct, go to step 5 	<div>Check Correct Blade is Being Used</div> 
5.	Return the MK-145 for Repair <ul style="list-style-type: none"> Return the MK-145 for repair per the Return Instructions section of this procedure 	<div>Return to MK Diamond for Repair</div>

EXPLODED VIEW and PARTS LIST:

EXPLODED VIEW:



MK-145 Benchtop

EXPLODED VIEW and PARTS LIST:

PARTS LIST:

Number	Kit Name	MK Diamond Part Number
1	Switch	158303
2	Diagonal Cutting Guide	158304
3	Adjustable Cutting Guide	158305
4	Table Stop	158306
5	Motor Assembly	158307
6	Flange Assembly	158308
7	Blade Guard Assembly	158309
8	Cutting Table Cover Assembly	158310
9	Diamond Blade	158311
10	MK-145 Molded Base	158312
11	MK-145 Molded Top	158313
12	Power Cord	158314
13	Warning Label	158315
14	Nameplate Label	158316
15	Mounting Screws (Top to Base)	158317

THEORY:

THEORY OF DIAMOND BLADES:

Diamond blades do not really cut; they grind the material through friction. Diamond crystals, often visible at the leading edge and sides of the rim/segment, remove material by scratching out particles of hard, dense materials, or by knocking out larger particles of loosely bonded abrasive material. This process eventually cracks or fractures the diamond particle, breaking it down into smaller pieces. As a result, a diamond blade for cutting soft, abrasive material must have a hard metal matrix composition to resist this erosion long enough for the exposed diamonds to be properly utilized. Conversely, a blade for cutting a hard, non-abrasive material must have a soft bond to ensure that it will erode and expose the diamonds embedded in the matrix. These simple principles are the foundation of “controlled bond erosion”.



Types of Cutting:

There are two basic types of cutting, Dry, or Wet. The choice of which type of blade to use depends on:

- The requirements of the job
- The machine/tool utilizing the diamond blade
- The preference of the operator



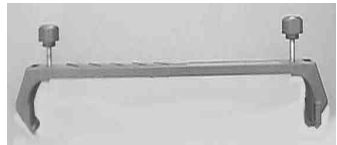


In the case of DRY cutting, the overwhelming popularity and quantity of hand-held saws and the flexible nature of MK Diamond blades to professionally handle most ceramic, masonry, stone and concrete materials, make the DRY cutting blade a very attractive tool. When using a DRY blade, the user must be aware of distinct operating practices to ensure optimum performance. DRY cutting blades require sufficient airflow about the blade to prevent overheating of the steel core. This is best accomplished by shallow, intermittent cuts of the material with periods of “free-spinning” (for several seconds) between each cut, to maximize the cooling process.

For WET cutting applications, MK has the exact blade to compliment both the material to be cut and the wet cutting machine to be used. During cutting operations, liberal amounts of water act as a coolant to support the cutting effectiveness and longevity of the WET blade. Additionally, using water adds to the overall safety of cutting operations by keeping the dust signature down.

Know All You Can About the Material You Wish to Cut

ACCESSORIES, ORDERING and RETURN INSTRUCTIONS:

ACCESSORIES:

ITEM	NUMBER	DESCRIPTION	
1.	158309	Blade Guard Assembly	
2.	158304	Diagonal Cutting Guide	
3.	158305	Adjustable Cutting Guide	
4.	158311	Diamond Blade	
5.	152610	Ground Fault Circuit Interrupter	

ACCESSORIES, ORDERING and RETURN INSTRUCTIONS:

ORDERING INFORMATION:

You may order MK Diamond products through your local MK Diamond distributor or, you may order direct from MK Diamond.

NOTE: There is a \$25.00 minimum order when ordering direct from MK Diamond. All purchases must be made using VISA or MasterCard.

When ordering direct from MK Diamond, please provide the following information:

- The Model Number of the saw
- The Serial Number of the saw
- Where the saw was purchased
- When the saw was purchased
- The Part Number for the part(s) being ordered
- The Part Description for the part(s) being ordered

All parts may be ordered by calling toll free to – **800 421-5830** or **310 539-5221** and asking for Customer Service. For technical questions, call – **800 474-5594**.

RETURN MATERIALS POLICY:

To expedite the service relative to the return of a product purchased through MK Diamond, please observe the following:

NOTE: All when returning items, they must have been purchased within the previous twelve (12) months.

- Have the Model Number of the saw
- Have the Serial Number of the saw
- Have the location of where the saw was purchased
- Have the date when the saw was purchased
- Contact Customer Service for approval to return the item(s)
- Obtain a Returned Authorization Number (RAN) authorizing the return
- Follow the packaging instructions in the following section
- Ensure your item(s) are prepaid to the destination

PACKAGING INSTRUCTIONS:

- Remove the Blade Guard and Support Angle Assembly
- Dry the saw before shipping
- When packing, include the following: MK-145, Diamond Blade, Blade Guard and Support Angle Assembly and Adjustable Cutting Guide (Other Accessories are not required)
- Package the unit in its original container or one of comparable size (do not ship the unit partially exposed)
- Ensure all parts are secured in the packaging to prevent moving

AUTHORIZED SERVICE CENTERS:

For quicker repair time, you may contact MK Diamond Customer Service, toll free, at – **800 421-5830** or **310 539-5221** for the Authorized Service Center closest too you. For technical questions, call – **800 474-5594**.



MK-145 SERIES

TILE SAW OWNER'S MANUAL & OPERATING INSTRUCTIONS

CALIFORNIA PROPOSITION 65 MESSAGE:

⚠ WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contain chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead, from lead-based paints
- Crystalline silica, from bricks and cement and other masonry products and
- Arsenic and chromium, from chemically treated lumber

Your risk from these exposures varies depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

MK DIAMOND PRODUCTS, INC
1315 STORM PARKWAY, TORRANCE, CA 90509-2803
310 539 5158